

## COCCYGEAL DERMOID FISTULA.<sup>1</sup>

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THE subject of coccygeal dermoid fistula has apparently received little attention in literature.

Occasionally some one has reported the finding of a dermoid cyst in the coccygeal region, but without making satisfactory explanation for the derivation or manner in which such cysts are likely to have been formed. I have seen reference to cysts only, but in making a study of the subject it seems to me that we are more apt to find fistulae than cysts. We are still more apt to find funnel formed depressions than fistulae. These congenital defects in the coccygeal region are so common that one will not examine many patients without finding some one form of the defect, most commonly the funnel formed depression in the skin extad to the coccyx. Less frequently we find fistulae extending to the depth of from half an inch to four inches, as in my most marked case, the deepest portion of the fistula cephalad from the exit situated in the loose connective-tissue layer between the sacrum and the skin. The rarest form of the defect would appear to be the wholly encapsulated cyst; but this may be because such cysts are often so small as to be overlooked. The coccygeal fistulae and cysts contain straight hairs of the lanugo type mostly, although I have found some that were nearly three inches in length, straight, and welded into a cylindrical mass by sebaceous material. The sebaceous material escapes freely from the fistulae, and when decomposing may have a very disagreeable odor. It remains encapsulated in the cysts, and in the funnel shaped depressions it frequently dries upon the surface of the skin and comes away in the form

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of thick scales mixed with epithelial *débris*. When my attention was directed to the subject about a year ago, I was surprised at finding so large a number of these cases which evidently represent some embryonal defect. There is a possibility that the tail of the embryo in undergoing involution leaves a portion of the skin highly endowed with embryonal latent cells, and that the skin developing more perfectly around the site of the embryonal tail encapsulates the remains of this structure in



FIG. 1.—Section of fistula wall from coccygeal dermoid fistula (low power).

part or in whole, so that we have in a coccygeal fistula really an inverted tail. I have found four cases of coccygeal fistulae containing masses of hair, in my own practice, up to the present time. In trying to eradicate these fistulae, it is essential that the entire fistula wall be removed, because it consists so largely of embryonic tissue that we shall have recurrence of the fistula if any part of the wall be left, very much as in the case of branchial cysts. The method of treatment with nitrate of silver

and other caustics is as unsuccessful as similar treatment of branchial cysts, because of the difficulty of destroying the cyst wall by any method short of complete excision.

The patient from whom the micro-photographs were obtained (Figs. 1 and 2) was a young man twenty-three years of age. He had not been aware of anything wrong in the coccygeal region until about two years previous to the time when I first saw him. He was kicked, and following the kick there had developed a small tumor-like mass



FIG. 2.—Section of fistula wall from coccygeal dermoid fistula (high power), showing character of epithelium.

in the coccygeal region. His physician brought him to me on the supposition that injury had been done to the bone, and that the case was one of necrosis of the coccyx, but I recognized the odor of the sebaceous secretion from the fistula and found two or three projecting hairs. I dissected out the fistulous tract, which was about three inches in length, and the specimen from which these photographs were made was taken from a middle segment of the fistula wall. The coccyx in some of these cases seems to be deformed, but I am not sure that this

is a good observation, because I have not had an opportunity to examine post-mortem any coccyx in a case with fistulae, cysts, or funnel depressions. I presume that this young man had a small congenital coccygeal cyst; the exit closed by epithelial agglutination, very much as in a case of preputial adhesion, the imperfectly developed epithelium cells not well stratified, and the cells intermingling in such a way that cleavage between the opposed portions of fistula wall was not readily effected until the patient received a blow in this region, when there was such an addition of serous elements to the sebaceous contents of the cyst that the fluid forced an opening at the point of least resistance and established an open fistula.

On examining sections of the fistula wall taken from a middle segment of the pipe that was removed, we observe that the fistula wall consists of almost typical skin, but containing an enormous number of blood-vessels with extensive infiltration of cells like leucocytes. The epithelial surface is arranged rather irregularly, and the hairs are shed almost as rapidly as they become fully developed, so that only a few hairs remain firmly attached to the skin within the fistula. They are shed in such a way that they remain longitudinally compressed against each other, and a mass that I removed from one patient was about as large as my finger in length and in circumference. In most of these cases, when there is an escape of sebaceous material, we find a disagreeable odor.